

REMARKS

By this paper, the Applicant has made no amendments to the claims. Thus, Claims 2-11 and 15-19 remain pending and are presented for further examination.

I. Discussion of Rejection of Claims 2-4 Under 35 U.S.C. § 103(a)

In paragraph 3 of the Office action, the Examiner rejected Claims 2-4 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,222,323 to Yamashita et al. in view of U.S. Patent No. 6,166,579 to Hojabri et al. and U.S. Patent No. 6,362,835 to Urbanus et al. In rejecting independent Claim 2, the Examiner stated that "Yamashita discloses an apparatus (matrix of light emitting elements organic EL column 1, lines 25-27) which provides a uniformly varying brightness control for a display screen, comprising a brightness control device (brightness setter 10, column 7, lines 4-5, figure 8)." *O.A. at page 2*. The Examiner further stated that the Yamashita device comprises a brightness control circuit (controller 9 coupled to brightness setter 10 as shown in figure 8) responsive to an analog input for providing an output current to the display screen (display section 6, column 4, lines 59-60, electric current, column 4, lines 53-54) so as to control brightness of said display screen (controller 9 controls anode controller 7 and cathode controller 8 based on brightness level B, column 8, lines 41-43)." *Id.* The Examiner noted that "Yamashita et al. fails to teach a digital input representative of a state of the brightness control device." *Id.* The Examiner further noted that "Hojabri et al. teaches a digital input representative of a state of the brightness control device (digital input signal 47, column 4, lines 42-44, 6 bit Bias Brightness Control as shown in figure 6)." *Id.* However, the Examiner stated, Yamashita et al. fails to teach that the output current is exponentially related to the digital input, and that Urbanus et al. teaches n-bit intensity word (column 2, lines 23-24), and noting that Urbanus et al. teaches a 5-bit system allowing 32 unique intensities (column 2, lines 35-36), since $2^{\exp 5} = 32$. *Id.* The Examiner argued that this corresponds to the claimed output current exponentially related to the digital input. *Id.* The Examiner argued that it would have been obvious to a person of ordinary skill in the art to utilize the apparatus of Yamashita et al., then implement the n-bit intensity word for brightness control as taught by Urbanus et al. to obtain the apparatus of Yamashita et al. modified by Urbanus et al. because it will provide the user a uniform brightness of the display screen. *Id. at page 3*.

For the reasons discussed below, the Applicant submits that none of Yamashita, Hojabri, and Urbanus, either alone or in combination, teaches or suggests all of the limitations of the claimed invention.

A. The Law of Obviousness

To establish a *prima facie* case of obviousness, three basic criteria must be met: (1) there must be some suggestion or motivation to combine the reference teachings, (2) there must be a reasonable expectation of success, and (3) the references when combined must teach or suggest all of the claim limitations. See *M.P.E.P. § 2143*. It is well settled that “a showing of a suggestion, teaching or motivation to combine the prior art references is an ‘essential component of an obviousness holding’.” See, e.g., *Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000). The Examiner can satisfy the burden of showing obviousness of the combination “only by showing some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references.” *In re Fitch*, 972 F.2d 1260, 1265, 23 U.S.P.Q.2d 1780, 1783 (Fed. Cir. 1992). “Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention.” *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998).

B. None of Yamashita, Hojabri, and Urbanus, either Alone or in Combination, Teaches or Suggests all of the Limitations of Claims

As noted above in rejecting Claim 2, the Examiner already admitted that neither Yamashita, Hojabri, and Urbanus alone teaches or suggests all of the limitations of Claim 2. For instance, the Examiner stated Harley “Yamashita et al. fails to teach a digital input representative of a state of the brightness control device.” *O.A. at page 2*. The Examiner further stated that “Yamashita et al. fails to teach that the output current is exponentially related to the digital

input.” *Id.* at 3. Also, the Examiner did not allege that Haojabri and/or Urbanus teach or suggest all of the limitations of Claim 2. *Id.*

However, the Examiner stated that Urbanus “teaches a 5-bit system allows [sic] 32 unique intensities (column 2, lines 35-36), and since $2^5 = 32$, and Yamashita et al. teaches already teaches [sic] output current; therefore this corresponds to the claimed output current exponentially related to digital input.” *Id.* The Applicant respectfully disagrees with the Examiner’s conclusion on this issue. As Urbanus describes, FIG. 1 shows a typical timeline for one frame of a 5-bit digital pulse-width modulated display system, wherein the 5-bit system allows 32 unique intensities to be displayed. *Urbanus at col. 2, ll. 32-36.* Based on this disclosure, the Examiner argued that this corresponds to the claimed output current exponentially related to digital input. The Applicant submits that nowhere does Urbanus teach or suggest an apparatus comprising an exponential brightness control circuit providing an output current that is exponentially related to the digital input, as recited in Claim 2. In relying on the 5-bit digital illustration of Urbanus, the Examiner advanced no argument other than the axiomatic binary arithmetic of a 5-bit word. In other words, it is well known in the art that a 5-bit word produces 32 levels of outputs, because $2^5 = 32$. The 32 levels simply represent 32 levels of discrete values and nothing more; the 32 levels are not exponentially related to the 5-bit word, but are directly related. For example, when the 5-bit word increases from a value of 1 (e.g., 00001) to a value of 3 (e.g., 00011), the levels represented by 5-bit word also increases from 1 to 3.

However, in one exemplary embodiment described in the present specification, “[a]s illustrated by line 136 on graph 134, as the digital signal D_i increases, the magnitude of the light power generated by the exponential brightness control 130 increases exponentially”. *Spec. at page 8; see Fig. 2.* In an exponential relation (e.g., curve 136 of Figure 2), as the digital signal D_i increases, the output power P does not necessarily increase by the same rate of increase of D_i . For example, the rate of increase in the output power P may be low at low values of D_i , whereas the rate of increase in the output power P may be higher at higher values of D_i , even though the rate of increase of D_i remains fixed. At best, Urbanus teaches an input digital signal of a 5-bit word, and nothing more. More importantly, nowhere does Urbanus, and the Examiner did not point out where does Urbanus, teach or suggest an exponential brightness control circuit (e.g., circuit 130 of Figure 1), as recited in Claim 2.

Accordingly, the Applicant submits, that even if Yamashita and Hojabri teach what is alleged by the Examiner, the combination of those two references with Urbanus would still fail to teach or suggest all of the limitations of Claim 2 as required by law. To establish a *prima facie* case of obviousness, the law requires that the references when combined must teach or suggest all of the claim limitations. *See M.P.E.P. § 2143*. Because none of Yamashita, Hojabri, and Urbanus, either alone or in combination, teaches or suggests all of the limitations of Claim 2, the rejection of Claim 2 under 35 U.S.C. § 103(a) should be withdrawn.

C. There Would Have Been No Motivation to Combine the Teachings of Harley and Lin

As discussed above, “a showing of a suggestion, teaching or motivation to combine the prior art references is an ‘essential component of an obviousness holding’.” *See, e.g., Brown & Williamson Tobacco Corp. v. Philip Morris Inc.*, 229 F.3d 1120, 1124-25, 56 U.S.P.Q.2d 1456, 1459 (Fed. Cir. 2000). In rejecting Claim 2, the Examiner argued that “[i]t would have been obvious to one of ordinary skill in the art to utilize the apparatus of Yamashita et al., then implement the n-bit intensity word for brightness control as taught by Urbanus et al. to obtain the apparatus of Yamashita et al. modified by Urbanus et al. because it will provide the user a uniform brightness of the display screen.” *O.A. at page 3*. For the reasons discussed below, the Applicant submits that one of ordinary skill in the art would not have been motivated to combine the teachings of those references to recognize the claimed invention.

Determination of obviousness cannot be based on the hindsight combination of components selectively culled from the prior art to fit the parameters of the patented invention. *ATD Corp. v. Lydall, Inc.*, 159 F.3d 534, 546 (Fed. Cir. 1998). Here, the Examiner has selectively culled from Yamashita the brightness setter 10 and controller 9; the digital input signal 47 from Hojabri; and the n-bit intensity word form Urbanus. *See O.A. at pp. 2-3*. In justifying this combination, the Examiner did not cite to any prior art supporting a motivation to achieve such selective combination of those references. Instead, the Examiner argued that the advantage “to provide to the user a uniform brightness of the display screen.” *Id. at page 3*. The Applicant submits that this advantage is one of the very benefits already recognized and solved by Applicant’s invention, and not by the combination of those references, but described by the Applicant. *See, e.g., Spec. at page 8, ll.19-25 (Fig. 3)*. More importantly, the combination of

those references, as argued by the Examiner, would not necessarily generate a uniform brightness because such combination would not result in an exponential relation between output current and digital input, as explained above. If such recognition would have been obvious to or would have motivated others skilled in the art to recognize the invention, others would have made the invention, but they did not. The Applicant submits that the Examiner has attempted to reconstruct the Applicant's claimed invention from the prior art by using the Applicant's claim as a blueprint. *See Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 227 U.S.P.Q.543 (Fed. Cir. 1985) ("It is error to reconstruct the patentee's claimed invention from the prior art by using the patentee's claim as a 'blueprint'"). When prior art references require selective combination to render obvious a subsequent invention, there must be some reason for the combination *other* than the hindsight obtained from the invention itself. *Id.* "One cannot use hindsight to reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention." *In re Fine*, 837 F.2d 1071, 5 U.S.P.Q.2d 1596 (Fed. Cir. 1988). The Applicant submits that the Examiner's argument in support of the selective combination of the three references amounts to a classic example of hindsight reconstruction, which is impermissible under the law.

In view of the foregoing, the Applicant submits that Claim 2 is patentable. Since Claims 3 and 4 depend on Claim 2, the Applicant submits that those claims are also patentable for at least the same reasons.

II. Discussion of Rejection of Claims 5-10 and 15-19 Under 35 U.S.C. § 103(a)

In paragraph 4 of the Office Action, the Examiner rejected Claims 5-10 and 15-19 under 35 U.S.C. § 103(a) as being unpatentable over Yamashita, Hojabri, Urbanus, and further in view of U.S. Patent No. 4,417,240 to Ahmed. In rejecting Claims 5 and 9, the Examiner stated that Yamashita as modified by Hojabri fails to teach a voltage-to-current converting amplifier circuit. *O.A. at 5*. The Examiner argued that it "would have been obvious to a person of ordinary skill in the art to utilize the apparatus Yamashita et al. modified by Hojabri et al. then couple a voltage-to-current converting amplifier circuit as taught by Ahmed to obtain the apparatus Yamashita et al. modified by Hojabri et al. and Ahmed because it would allow proper driving of the

aforementioned LED array.” *Id.* The Examiner advanced a similar argument in connection with the rejection of Claim 15.

The Applicant submits that the combination of the alleged references still fails to teach or suggest all the limitations of each of Claims 5, 9 and 15, because each of those claims recites at least one of the patentable features (e.g., exponential relation) discussed in connection with Claim 2 above. As recognized by the Examiner, the combination of Yamashita, Hojabri and Urbanus fails to teach or suggest all of the limitations of Claims 5, 9 and 15. Also, Ahmed does not, and the Examiner did not allege that Ahmed does, teach or suggest all of the limitations of Claims 5, 9 and 15. Ahmed does not cure the deficiencies of Yamashita, Hojabri and Urbanus discussed in connection with Claim 2 above. Further, the Applicant respectfully submits that there is no suggestion or motivation to combine the reference teachings, as argued by the Examiner. Accordingly, it would not have been obvious to one of ordinary skill in the art to recognize the invention of Claims 5, 9 and 15 in view of any of those references.

Thus, Claims 5, 9 and 15 are allowable. Since each of Claims 6-8, 10, 11 and 16-19 depends on one of Claims 5, 9, and 15, the Applicant submits that Claims 6-8, 10, 11 and 16-19 are allowable.

III. CONCLUSION

Applicant has endeavored to address all of the Examiner’s concerns as expressed in the Office Action. Finally, Applicant submits that the claim limitations above represent only illustrative distinctions. Hence, there may be other patentable features that distinguish the claimed invention from the prior art.

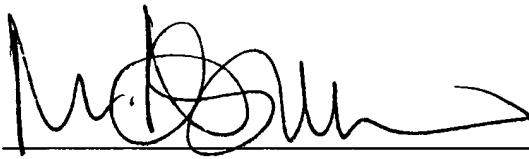
In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the outstanding rejections and, particularly, that all claims be allowed. If the Examiner finds any remaining impediment to the prompt allowance of these claims that could be clarified with a telephone conference, the Examiner is respectfully invited to call the undersigned.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,
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